

	Type	L #	Hits	Search Text	DBs	Time Stamp
1	BRS	L1	0	inspect\$3 adj20 (camera and analyzer)	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM TDB	2001/12/03 14:45
2	BRS	L3	15	2 and compar\$3	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM TDB	2001/12/03 14:45
3	BRS	L2	44	inspect\$3 adj20 golf near ball	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM TDB	2001/12/03 15:20
4	BRS	L4	1	inspect\$ near game near ball	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM TDB	2001/12/03 15:20
5	BRS	L5	20	inspect\$ near9 (game near ball)	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM TDB	2001/12/03 15:21

	U	1	Document ID	Issue Date	Pages
1	<input type="checkbox"/>	<input type="checkbox"/>	US 20010012389 A1		19
2	<input type="checkbox"/>	<input type="checkbox"/>	US 5988401 A	19991123	4
3	<input type="checkbox"/>	<input type="checkbox"/>	JP 2000300775 A	20001031	9
4	<input type="checkbox"/>	<input type="checkbox"/>	JP 2000300772 A	20001031	10
5	<input type="checkbox"/>	<input type="checkbox"/>	JP 2000153037 A	20000606	27
6	<input type="checkbox"/>	<input type="checkbox"/>	JP 2000079233 A	20000321	27
7	<input type="checkbox"/>	<input type="checkbox"/>	JP 11000464 A	19990106	16
8	<input type="checkbox"/>	<input type="checkbox"/>	JP 10192540 A	19980728	8
9	<input type="checkbox"/>	<input type="checkbox"/>	JP 07213715 A	19950815	12
10	<input type="checkbox"/>	<input type="checkbox"/>	JP 06154402 A	19940603	10
11	<input type="checkbox"/>	<input type="checkbox"/>	JP 2001139133 A	20010522	7
12	<input type="checkbox"/>	<input type="checkbox"/>	JP 2000329698 A	20001130	8

	Title	Current OR	Current XRef
1	Apparatus and method for automated game ball inspection		
2	Display rack with alphabetic characters cradling a ball	211/14	D11/157 ; D6/450
3	GAME MACHINE		
4	GAME MACHINE AND GUIDE PASSAGE FOR GAME MACHINE		
5	BALL CIRCULATION DEVICE FOR ENCLOSED BALL TYPE PINBALL GAME MACHINE		
6	GAME BALL SENDING OUT DEVICE		
7	GAME MACHINE		
8	LIFT TYPE POLISHER FOR GAME BALL		
9	BACK MECHANISM STRUCTURE OF GAME MACHINE		
10	GAME BALL DISCHARGE DEVICE		273/121D
11	Material inspection apparatus, has pushing up mechanism that actuates  pushing up bodies to change the position of materials mounted on mount  section and are subject to evaluation by an		
12	Image processor for goods inspection, has mirror structure to reflect  goods image photographed by camera where reflecting rate of mirror  structure is suitably regulated to obtain image pick-up of different		

	U	1	Document ID	Issue Date	Pages
13	<input type="checkbox"/>	<input type="checkbox"/>	JP 2000014866 A	20000118	6
14	<input type="checkbox"/>	<input type="checkbox"/>	JP 11267275 A	19991005	17
15	<input type="checkbox"/>	<input type="checkbox"/>	JP 11226211 A	19990824	8
16	<input type="checkbox"/>	<input type="checkbox"/>	JP 11216250 A	19990810	23

	Title	Current OR	Current XRef
13	<p>Prize winning state detector in pachinko machine - includes inspection</p> <p>unit without electrical output terminal, which is arranged in middle of</p> <p>optical path, where prize winning game ball passing hole is formed in</p> <p>vicinity of inspection</p>		
14	<p>Detachable ball entry detection arrangement in game condition inspection</p> <p>apparatus for pachinko machine - has information output circuit which</p> <p>outputs information regarding entry of ball in game area detected by</p> <p>detachable sensor to</p>		
15	<p>Ball-flipping game machine - has stopper which regulates flow of</p> <p>game ball between tank and detachable rail for alignment array</p>		
16	<p>Information management system for ball game machine - has detection</p> <p>signals measured from detection units after which inspection information</p> <p>is provided to management unit without affecting game control apparatus</p>		

	U	1	Document ID	Issue Date	Pages
17	<input type="checkbox"/>	<input type="checkbox"/>	JP 11059876 A	19990302	9
18	<input type="checkbox"/>	<input type="checkbox"/>	JP 08059024 A	19960305	1
19	<input type="checkbox"/>	<input type="checkbox"/>	JP 07328190 A	19951219	9
20	<input type="checkbox"/>	<input type="checkbox"/>	JP 07313672 A	19951205	11

	Title	Current OR	Current XRef
17	<p>Inspection apparatus of spherical or oval shaped fruits and vegetables</p> <p>and ball used in ball games - has rotating machine to rotate fruits</p> <p>and vegetables while inspecting and cameras for taking images of</p> <p>in and outside surface of</p>		
18	<p>Automatic sales appts. for ball game parlour - has controller, which</p> <p>inspects bank note conveyed by conveyor, and sends signal to information</p> <p>part and when bank note</p>		
19	<p>Game disk hole opening inspection for elastic ball gaming machine</p> <p>- by stopping hole processing stage after delivering suitable ball</p> <p>when processing hole is suitable and positive as game disk is positioned</p>		
20	<p>Inspection device for ball game machine - has control substrate</p> <p>governing game motion, with game balls hitting pointed connector</p> <p>which is connected by cable to inspection device</p>		

	Type	L #	Hits	Search Text	DBs	Time Stamp
1	BRS	L1	3	game near ball and automat\$3 near inspect\$4	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM TDB	2001/12/03 10:40
2	BRS	L2	6	golf near ball and automat\$3 near inspect\$4	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM TDB	2001/12/03 10:45
3	BRS	L3	2	golf near ball and environ\$6 near device	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM TDB	2001/12/03 10:49
4	BRS	L4	2	golf near ball and machine near vision near engine	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM TDB	2001/12/03 10:50
5	BRS	L6	0	5 and 356/\$.ccls.	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM TDB	2001/12/03 10:52



	Type	L #	Hits	Search Text	DBs	Time Stamp
6	BRS	L5	236	golf near ball and treat\$4 near surface	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM TDB	2001/12/03 11:55
7	BRS	L7	1	"5185132".PN.	USPAT	2001/12/03 11:44
8	BRS	L8	25	golf near ball and 356/\$.cccls.	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM TDB	2001/12/03 12:06
9	BRS	L9	1	"5467192".PN.	USPAT	2001/12/03 12:01
10	BRS	L10	1	"5239366".PN.	USPAT	2001/12/03 12:02
11	BRS	L11	4	game near ball and 356/\$.cccls.	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM TDB	2001/12/03 12:13
12	BRS	L13	21	game near ball and analyzer	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM TDB	2001/12/03 12:14

	Type	L #	Hits	Search Text	DBs	Time Stamp
13	BRS	L12	3	game near ball and inspect\$4 and analyzer	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM TDB	2001/12/03 12:14
14	BRS	L14	162	game near ball and inspect\$4	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM TDB	2001/12/03 12:15

CLIPPEDIMAGE= JP409326034A

PAT-NO: JP409326034A

DOCUMENT-IDENTIFIER: JP 09326034 A

TITLE: METHOD AND DEVICE FOR INSPECTING MARKS OR THE LIKE  
PROVIDED ON CURVED  
SURFACE OF ELASTIC BODY

PUBN-DATE: December 16, 1997

INVENTOR-INFORMATION:

NAME

KUMAGAI, HIROKI

ASSIGNEE-INFORMATION:

NAME

BRIDGESTONE SPORTS CO LTD

COUNTRY

N/A

APPL-NO: JP08165324

APPL-DATE: June 5, 1996

INT-CL\_(IPC): G06T007/00; A63B045/00 ; A63B047/00

ABSTRACT:

PROBLEM TO BE SOLVED: To automatically execute the inexpensive, easy, speedy and accurate inspection of normality/defectiveness by executing a quality inspection of marks provided on the curved surface of an elastic body such as a golf ball by so called pattern matching method without necessitating strict positioning operation.

SOLUTION: By pressing an inspection objective part of the elastic body 6 to a transparent flat plate 3 with a prescribed pressure P, the elastic body 6 is elastically deformed to bring the inspection objective part into closely contact with the flat panel 3. Then this inspection objective part is photographed by a two-dimensional camera 5 through the flat panel 3 to obtain the two-dimensional image of the inspection objective part deformed in the shape of a flat surface. Then the incident degree between the marks on he obtained two-dimensional image and marks on a prepared standard

image is  
evaluated to judge the quality of the marks provided for the  
object to inspect.

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